

# *Field Report*

## Laguna Atascosa National Wildlife Refuge

### ■ 1.0 Summary

The Laguna Atascosa National Wildlife Refuge (NWR), located in southeastern Texas, is one of the premier birding locations in the United States. It also contains a number of threatened and endangered wildlife species, including the ocelot and the jaguarundi. The Refuge has just grown from approximately 45,000 acres to over 100,000 acres due to recent land acquisitions. The site is visited by over 250,000 annually, although NWR staff think the site could manage up to two to four times that number.

The Refuge could benefit from the introduction of tourist shuttles and bike paths as alternative means of accessing and experiencing the site. A brief description of these alternatives follows:

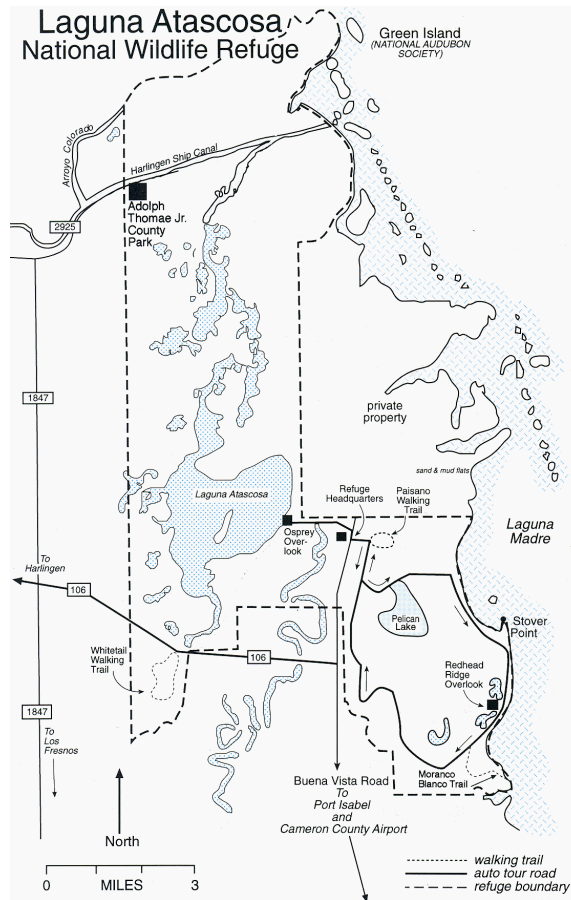
- A bus shuttle could run tours beginning in the neighboring city of Harlingen, to the site, around portions of the Refuge, and back to Harlingen. The tour could be interpretative and educational in nature, as well as scenic. Tours could last approximately two to three hours and be theme-based or general. Because the birds and wildlife are most often seen in the early morning hours and near sunset, it may be desirable to run three shuttles in the morning, and two in the late afternoon during peak months. Off-season tours could run twice a day – once in the morning and once in the late afternoon.
- The Refuge could create a network of bike paths throughout the site. The size of Laguna Atascosa NWR would permit bike paths to be installed without significant impact on the vegetation.
- There is some discussion by the Refuge about the possibility of introducing a boat launch ramp and fishing. This would expand both recreational opportunities as well as introduce the possibility of a tourist water shuttle for Laguna Madre, which could provide an interpretative and scenic water tour in the peak tourist months.

### ■ 2.0 Background Information

#### 2.1 Location

The Laguna Atascosa NWR is located in southeastern Texas along the Gulf Coast (see Figures 1 and 2) in the town of Rio Hondo. It is adjacent to Laguna Madre, east of Arroyo City, and north of Bayview. It is located 30 miles north of Brownsville and the U.S.-Mexican border. Most of the Refuge is found in Cameron County; the northern most tip is part of Willacy County.

**Figure 1. Map of Laguna Atascosa National Wildlife Refuge**



**Figure 2. View from Gulf Coast**



## **2.2 Administration and Classification**

Laguna Atascosa NWR is a unit of the USFWS. According to the Refuge's Master Plan, it was established as part of the National Wildlife System in March 1946 "to preserve and manage (the) resting and feeding habitat for migrating and wintering waterfowl." Much of the original site was purchased through the sale of Duck Stamps; part of the land was transferred to the Refuge from the Department of Defense. Recent land acquisitions were completed in summer 1999 in conjunction with the Proposed Refuge Expansion Plan.

Laguna Atascosa NWR has 15 staff members covering 13 full-time equivalent (FTE) positions. Six additional positions are available and need to be filled. Due to the recent Refuge expansion, 24 newly created positions were approved, which will significantly increase the ability of the Refuge to manage a complex and growing site.

## **2.3 Physical Description**

Until recently, Laguna Atascosa NWR covered 45,187 acres. A recent acquisition of land of approximately 56,000 acres increases the size of the Refuge to over 100,000 acres. The NWR is the largest area of protected natural habitat remaining in the Lower Rio Grande Valley. The Refuge contains a variety of habitats, including desert, subtropical, gulf coast, and great plains. Some of the land within the Refuge was altered by farming in the 1900s. The Refuge still farms 400 acres, leaving the crops for wintering geese and cranes. Other former farmland within the Refuge is in the process of being restored to its original brushland and grassland states.

The Refuge is particularly well known for its diversity of birds and wildlife. With over 400 species of birds, it is considered one of the national birding "hot spots" and includes several species which are endangered or threatened, like the aplomado falcon and the piping plover. The Refuge is home to two species of endangered cats, the ocelot and the jaguarundi. Laguna Atascosa also is becoming known for the alligators that inhabit the Refuge's ponds during rainy years.

The Laguna Atascosa NWR includes a Visitor Center (open November through May), five walking and hiking trails, and two Refuge tour roads. The Refuge also includes a small tract of land along the Arroyo Colorado that is leased to the Cameron County Park System for the Adolph Thomae Jr. County Park.

## **2.4 Mission and Goals of the Site**

The primary mission and goals of the Refuge are:

- To preserve and manage the resting and feeding habitat for migrating and wintering waterfowl;
- To protect the southern Texas wildlife species with special attention focused on endangered and threatened species; and
- To minimize the adverse impacts of recreational activities on wildlife and natural habitats.

## **2.5 Visitation Levels and Visitor Profile**

According to Refuge management, approximately 250,000 people visit the Refuge each year. The peak visitor seasons are October through December, and March through May due to the combination of good weather and the large number of migratory birds present on the Refuge. Visitation remains fairly steady throughout the week. Birders constitute a significant portion of the visitation. “Winter Texans” (i.e., semi-permanent residents who live in the area in the winter when the weather is best) represent a large portion of visitors in the peak season.

Visitor surveys indicate roughly 20 percent of the visitors are local; 70 percent come from other locations in the United States; and 10 percent are international, which includes visitors from Mexico. Refuge staff indicated that one-quarter to one-third are repeat visitors.

According to the Refuge management, the Laguna Atascosa NWR could accommodate two to four times the number of visitors it serves currently. Some enhancements to the Visitor Center and roads would be required, but the site could accommodate many more visitors without significant, negative impacts to the environment.

## **■ 3.0 Existing Conditions, Issues and Concerns**

### **3.1 Transportation Conditions, Issues and Concerns**

The existing transportation conditions include the following:

- **Roads** – The two main roads within the Refuge, Lakeside and Bayside, are both open to autos and bicyclists. There is a single entry point to the Refuge from which these roads begin. Part of the roads are paved; other sections consist of compacted dirt and gravel (see Figures 3, 4, and 5). The Refuge secured funds for road paving from TEA-21 but is waiting until the off-season to complete the work as it will require road closures. Speeds are limited to 25 mph. On peak days, Refuge traffic can be bumper to bumper.
  - Bayside Drive is a semi-paved, one-way loop of 15 miles located on the east side of the site. The road begins at the Visitor Center and passes by Pelican Lake, Redhead Ridge Overlook, and Laguna Madre. It has a shelter at Redhead Ridge Overlook and several parking and observation pullouts.
  - Lakeside Drive is a 1.5-mile road leading from the Visitor Center to Laguna Atascosa’s Osprey Overlook on the west side of the Refuge.

**Figure 3. Paved Road within the Refuge**



**Figure 4. Unpaved Road in the Refuge**



**Figure 5. Unpaved Road in the Refuge**



- **Parking** – Parking areas are located at the Visitor Center and at several locations along Refuge Drive (see Figures 6 and 7). The parking lot near the Visitor Center holds approximately 100 cars. Some trailhead parking locations hold only a handful of cars. Most of the time there is adequate parking. However about a dozen times a year, when the weather is especially nice and there are many birds on the Refuge, parking reaches capacity quickly, and additional parking is needed. However, the Refuge does not turn visitors away, even for special events when visitation is unusually high. Visitors simply park beside the pavement on the ground or gravel. The Refuge does not feel that an expansion of the parking areas is needed.

**Figure 6. Refuge Parking Lot**



**Figure 7. Unpaved Parking Area**



- **Biking** – The Refuge gets a significant amount of usage by bicyclists, but the roads lack dedicated bikeways, and there are no individual bike paths. Conflicts between automobiles and bicycles occur on days with high visitation.



- **Shuttle** – There has been no shuttle system used on the Refuge to date. *Island Tours* runs a shuttle between South Padre Island and Harlingen Airport, but it does not serve Laguna Atascosa NWR.
- **Buses** – Laguna Atascosa NWR is visited by tour and school buses. School buses visit only once or twice a week. Tour buses, especially birding tours, are somewhat more common. However, the sharp corners and narrow roads provide poor conditions for buses; in wet weather, the Refuge prohibits bus access. However, once Bayside Road is repaved many of the problems should be resolved and it will be easier for buses to tour the site.
- **Equestrian** – Horses are permitted on the Refuge. There is no conflict between the horses and other modes, as they tend to segregate themselves from automobile and bicycle traffic. The large site allows for this, and as a result, there are minimal conflicts between the groups.
- **Signage** – Informational signs to access the Refuge are good, but the Refuge could benefit from more bilingual signs given its proximity to the international border.

## 3.2 Community Development Conditions, Issues and Concerns

### *Surrounding Communities*

The population of Cameron County, where the majority of the Refuge is located, has grown significantly in the last two decades. The neighboring city of Harlingen and its suburbs contain over 250,000 people. The Refuge is located only 30 miles from the U.S.-Mexican border but is removed from much of the border “maquilladora” development.

### *Refuge Expansion*

Early in 1999, an environmental assessment addressing the Refuge’s proposed expansion plan was issued. The finding of no significant impact (FONSI) permits the Refuge to purchase and accept donations of the 108,127 acres of land identified in the proposed expansion plan in Cameron and Willacy Counties, without having to conduct an environment impact statement. The expansion will provide appropriate environments for the endangered animals and birds and protect and expand migratory bird habitats in the region. Fifty-six thousand acres of this land already have been acquired; discussions with land-owners about other properties are taking place.

The land will be acquired from willing sellers through fee or easement. In some cases, only conservation easements and development rights would be obtained. There is no interest by the Refuge to acquire land that has been or is being developed. The Refuge wishes to acquire land or conservation easements where the habitats have been preserved or can be restored for the protection and use of the native wildlife.

The first tracts of land that were acquired in late summer 1999 cover 56,000 acres – an addition that more than doubles the size of the Refuge. More donations and acquisitions are expected in the coming months.

### *Economic Impacts*

Laguna Atascosa NWR contributes to the local economy, accounting for \$3.5 million in recreation-related, visitor expenditures (see Table 1). According to the 1997 USFWS study, *Banking on Nature*, government spending in 1995 for Laguna Atascosa amounted to \$797,000. As a result of the multiplier effect, \$3.2 million is generated in economic activity, creating 79 jobs, and \$1.3 million in payroll for the local economy.

**Table 1. Laguna Atascosa NWR – Visitor Recreation-Related Expenditures**  
*1995 Dollars in Thousands*

<b>Activity</b>	<b>Resident</b>	<b>Non-Resident</b>	<b>Total</b>
Non-consumptive (e.g., off-site expenditures)	72.5	3,509.3	3,581.8
Hunting (on-site)	7.8	3.4	11.2
<b>Total</b>	<b>80.3</b>	<b>3,512.7</b>	<b>3,593.0</b>

### **3.3 Natural or Cultural Resource Conditions, Issues and Concerns**

Overgrazing, farming, and other development destroyed much of the natural habitat in southern Texas. However, many coastal lands, including Laguna Atascosa NWR, were acquired by the Federal government in the 1950s for military practice. This preserved the remaining natural habitat and allowed for regrowth of lost vegetation.

Concern for the endangered and threatened species on the Refuge remains the highest concern of Refuge staff. The Master Plan covers many strategies to maintain and encourage birds and wildlife to fully use the Refuge.

### **3.4 Recreational Conditions, Issues and Concerns**

#### *Recreational Activities*

The primary recreational activities on the Laguna Atascosa NWR include:

- Birding, wildlife observation, and photography;
- Programs and tours conducted by rangers;



- Walking along Refuge trails (about 10 miles of trail);
- Bicycling along tour roads and some service roads; and
- Deer hunting in season (fee charged for Refuge permit).

Fees are charged for vehicle entry. The Refuge entrance fee is \$2.00 per car. Annual permits can be purchased for \$10. Commercial tours are charged \$15 to \$25 based on the tour size.

Camping, fishing, and boating are permitted only in Adolph Thomae Jr. County Park and Laguna Madre. The park contains camping sites, a boat launch, and fishing piers.

The Refuge received a \$15,000 grant for a real-time, acoustical data system for migrating birds. This system could be expanded and developed into an off-site, educational program that permits students and others to “virtually” visit the Refuge. Although a virtual visit cannot replace an actual visit, the experience could serve as an introduction to the Refuge to those who have not been to the Refuge and entice them to make the visit at a later date.

### ***Concessions***

The Visitor Center contains a bookstore. An annual deer and feral hog hunt takes place on the Refuge for which permits are required. No food or other visitor concessions are provided within the Refuge.

### ***Nearby Recreational Sites***

Nearby recreational and Refuge sites include:

- Padre Island National Seashore;
- Port Isabel Lighthouse State Historic Park;
- Lower Rio Grande Valley NWR; and
- Santa Ana NWR.

## **■ 4.0 Planning and Coordination**

### **4.1 Unit Documents**

The key planning document in use by the Laguna Atascosa NWR is the *Draft Environmental Assessment and Concept Management Plan for Proposed Expansion of Laguna Atascosa NWR*. It was completed in 1999 and explains the entire plan for Refuge land acquisition.

## 4.2 Public and Agency Coordination

The USFWS coordinates Refuge management with:

- Laguna Atascosa NWR Friends Group;
- Ducks Unlimited (tidal waters);
- Audubon Society;
- Nature Conservancy;
- Conservation Fund;
- Cameron Country Parks and Recreation;
- Neighboring cities and mayors; and
- Conservation Public Lands Interpretive (CPLI) – The CPLI manages the bookstore/gift shop, but the Refuge does not receive any proceeds from the shop.

## ■ 5.0 Assessment of Need

### 5.1 Magnitude of Need

Laguna Atascosa NWR would benefit from Alternative Transportation Systems (ATS). There are days when congestion caused by auto traffic in the Refuge is high. However, the traffic is not enough to merit concern as the size of the Refuge is large and continuing to increase. The Refuge already is large enough to absorb the visitation without significant negative impacts to the site. However, the enormity of the Refuge and the opportunities for education and scenic tours provided by the diverse wildlife, bird life, and vegetation merit the introduction of tourist shuttles. Tourist shuttles can educate, entertain, and transport visitors, while allowing the Refuge to manage their visit in the way the Refuge prefers. There are additional opportunities for bike paths and water shuttles that would encourage alternative experiences of the Refuge, as well.

### 5.2 Feasible Alternatives

Feasible strategies for ATS at the Laguna Atascosa NWR include the following:

- **Tourist Shuttle** – Laguna Atascosa would benefit from the introduction of tourist bus shuttles to serve the site. Tours could be run by a private operator transporting visitors from Harlingen, to the site, around portions of the Refuge, and back to Harlingen. It could pick up additional passengers who wish to begin the trip at the Refuge, as well. The tour could be interpretative and educational in nature, as well as scenic. As there are no food concessions on site and picnicking facilities are limited, tours may need to be limited to two to three hours – either in the morning or afternoon.

Tours could be both theme-based (e.g., birding, wildlife) and general (covering history, scenery, preservation, etc.). Because the bird and wildlife are most often seen in the early morning hours and near sunset, it may be possible to run three shuttles in the morning, and two in the late afternoon during peak months. Off-season tours could run twice a day – once in the morning and once in the late afternoon.

- **Bike Paths** – The Refuge would like to create a network of bike paths throughout the site. The experience is less than ideal for bikers as the existing roads are sometimes narrow, shoulders are limited, and automobile traffic can sometimes be significant. The size of Laguna Atascosa NWR would permit bike paths to be installed without significant impact on the vegetation.
- **Boating** – Some areas of the Refuge are planned for flooding to provide additional bird and wildlife habitats. There is some discussion by the Refuge about the possibility of introducing a boat launch ramp and fishing. This would expand both recreational opportunities as well as introduce the possibility of a tourist water shuttle for Laguna Madre. The water shuttle could run from Port Isabel and South Padre Island to locations along the Laguna Atascosa NWR, providing an interpretative and scenic water tour in the peak tourist months. Depending on the size of the watercraft, the tourist boat could run two to three times a day, providing a two-hour cruise of the lagoon.

## ■ 6.0 Bibliography

*Banking on Nature: Economic Benefits of Local Communities of National Wildlife Visitation* (from USFWS), July 1997.

*Draft Environmental Assessment and Concept Management Plan for Proposed Expansion of Laguna Atascosa National Wildlife Refuge* (1999).

*Laguna Atascosa National Wildlife Refuge Master Plan and Tour Road Management Plan* (1988).

Laguna Atascosa NWR Web sites, <http://www.recreation.gov/detail.cfm?ID=1466> and <http://sturgeon.irm.r2.fws.gov/u2/refuges/texas/laguna.html>.

## ■ 7.0 Person Interviewed

Stephen Labuda, Jr., Refuge Manager, Laguna Atascosa NWR, USFWS